

## **SYSTEM PROVIDING INTERNET ACCESS MANAGEMENT WITH ROUTER-BASED POLICY ENFORCEMENT**

### **ABSTRACT OF THE DISCLOSURE**

A computing environment with methods for monitoring access to an open network such as the Internet, is described. The system includes one or more client computers, each operating applications (e.g., Netscape Navigator or Microsoft Internet Explorer) requiring access to an open network, such as a WAN or the Internet, and a router or other equipment that serves a routing function (e.g., a cable modem) for the client computers. A centralized security enforcement module on the router maintains access rules for the client computers and verifies the existence and proper operation of a client-based security module on each client computer. The router-side security module periodically sends out a router challenge via Internet broadcast to the local computers on the network. If the client-side security module is installed and properly operating, the client-side security module responds to the router challenge. The responses received by the router-side security module are maintained in a table. Each time the router receives a request from a client computer to connect to the Internet, the router-side security module reviews the table and analyzes whether or not the computer requesting a connection to the Internet properly responded to the most recent router challenge. If it determines that the computer has properly responded to the router challenge, then it permits the computer to connect to the Internet. If a computer has not properly responded or if a computer has not answered the router challenge, then the computer is not allowed to connect to the Internet as requested.

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